

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A device ~~to remove and recover by products formed during~~ ~~for~~ processing of a gaseous effluent containing at least hydrogen sulfide ( $H_2S$ ) and sulfur dioxide ( $SO_2$ ), wherein an organic solvent and at least one catalyst are used, said device comprising:
  - at least one contactor reactor,
  - at least one decantation zone ~~for separating liquid sulfur from the organic solvent,~~
  - several lines for delivery of at least a gas to be processed, of a fluid comprising at least solvent and catalyst,
  - several lines for extraction of at least a cleaned gas and of a fluid F containing at least solvent, catalyst, sulfur and by-products ~~resulting from degradation of the catalyst, and~~
  - at least a processing zone for processing said fluid F comprising at least solvent, catalyst, sulfur and by-products, said processing zone comprising heating means ~~suites for heating the fluid F to favour crystallization of the by-products and separation means suited to separate~~ ~~for separating~~ the by-products from the rest of said fluid F comprising at least solvent, catalyst and sulfur, ~~and so as to produce at least a fluid F<sub>1</sub> containing mainly solvent, catalyst and sulfur and nearly free of by-products and a fluid F<sub>2</sub> comprising most of the by-products~~ ~~are recovered at the outlet of said processing zone.~~

2. (currently amended) A device as claimed in claim 1, characterized in that the heating means are for example operated comprises means for heating the fluid F to a temperature between 120 and 180°C, preferably between 120 and 150°C.

3. (original) A device as claimed in claim 1, characterized in that decantation zone is situated in the lower part of said contactor reactor.

4. (currently amended) A device as claimed in claim 1, characterized in that the separation means in the processing zone can comprise-comprises at least one of the means selected from the group consisting of:

filtering means for producing at least fluid F<sub>1</sub> containing mainly solvent and nearly free of by-products, and at least fluid F<sub>2</sub> containing most of the by-products formed, and

capture means for producing at least fluid F<sub>1</sub> containing mainly solvent and nearly free of by-products, and at least fluid F<sub>2</sub> containing most of the by-products formed.

5. (currently amended) A device as claimed in claim 1, characterized in that it comprises-further comprising a line allowing to recycle at least part of the solvent from the processing stage to the contactor reactor.

6. (original) A device as claimed in claim 1, characterized in that said contactor reactor is selected from the group consisting of a reactor with random or stacked

packing, a static mixer SMV, an impactor, a hydro-ejector, an atomizer, and a wire contactor.

7. (original) A device as claimed in claim 1, wherein said device is connected to a Claus plant processing H<sub>2</sub>S from natural gas scrubbing operation or crude oil refining operations, and said gaseous effluent is an effluent of the Claus plant.

8. (new) A device as claimed in claim 1, characterized in that the heating means comprises means for heating the fluid F to a temperature between 120 and 150°C.